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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,279	07/09/2004	Sergel Molokov	456/1	5679

24101 7590 04/10/2007  
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EXAMINER
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BELL, BRUCE F

ART UNIT	PAPER NUMBER
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1746

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/10/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/10/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

bruce@lilling.com  
sean@lilling.com

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<b>Office Action Summary</b>	<b>Application No.</b> 10/501,279	<b>Applicant(s)</b> MOLOKOV ET AL.	
	<b>Examiner</b> Bruce F. Bell	<b>Art Unit</b> 1746	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/15/05</u> | 6) <input type="checkbox"/> Other: ____  |

### **DETAILED ACTION**

The rejection below is based on the article 34 amendment submitted on 12/03/2004 having only 5 claims, thereby replacing the previous 6 claims found to be replaced by an article 34 amendment. Should this be incorrect, it should be addressed by applicant's in the next response, and corrected by amendment.

#### ***Claim Objections***

1. Claims 4 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can not depend on another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 4 has not been further treated on the merits.

2. Claims 2 and 3 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 2 sets forth a magnetic field derived through the analysis of the reflection on an infinite wall, since applicants are instantly claiming a cell which is an apparatus, and a magnetic field is not a structural attribute but rather a result from application of an energy source, it appears that the claim does not further limit the apparatus structure from independent claim 1. Claim 3 is dependent on claim 1 or 2 and therefore has the same problem with respect to its dependency on claim 2.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is vague and indefinite with respect to what applicants are instantly claiming, since it is referencing accompanying text and drawings and never sets forth, in particular what applicants appear to believe is their instant invention. The system must present structural features to define the system and since the instant claim is absent those features, the invention does not provide the examiner with those attributes needed to properly examine the instant claim.

#### ***Drawings***

5. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Lukyanov et al (XP-002265915).

Lukyanov et al disclose a current driven liquid metal electrolyte cell having an external magnetic field that imposes an alternating magnetic field. See abstract, page 166, col. 1, lines 16-23 and col. 2, lines 11-23.

Lukyanov et al anticipates the applicants instant invention as shown by way of the disclosure above with respect to the instant claims as presented. Applicant is reminded that the non-structural attributes of the instant claims with respect to the magnetic field and its effects, have not been addressed in the above rejection, since these attributes have little or no patentable weight in an apparatus claim. Since the cell and a means for imposing on the cell an external alternating field have been found in the prior art, the instant claims have been met by the prior art cited above. Therefore, the prior art of Lukyanov et al anticipates the applicants instant invention.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Waldron (5240569).

Waldron disclose an electrolysis cell having two electrode surfaces wherein an electric current conducting means, energized by an electric power source and independent of the electrolysis circuit elements is arranged and constructed with respect to the cell to increase the average component of the magnetic field parallel to the mean electrode surfaces within the fluid electrolyte layer. This increase in the magnetic field is relative to the magnetic field due solely to the electrolysis current. See abstract. The cell may be a rectangular cell profile, in which the electrical source is independent of the source which provides the electrolysis current. The cell has a rectangular cross section that is enclosed by a multi-turn rectangular solenoidal coil, which allows generation of magnetic fields much higher than the field due to cell electrolysis current. The multi-turn coils for the electric current conducting means can be energized in series for a large group of cells to reduce the current requirements and improve the engineering advantages of high voltage and low current supplies. See col. 5, line 58 – col. 6, line 3. The coils can be separately energized and separately turned on or off during cell operation. For rectangular cell geometry, it is possible to have a single solenoid coil enclose two or more electrolysis cells either axially or laterally or conversely, to use several smaller solenoids to enclose a single electrolysis cell. See col. 6, lines 9-14. The magnetic fields can be deployed in a fashion to minimize the stray vertical magnetic fields or the non-uniformity of the horizontal fields by making such current carriers more nearly symmetrical with respect to the axis of the cells to minimize adverse effects due to the uneven or unwanted magnetic fields of the system. See col. 7, lines 14-21.

Waldron anticipates the applicants instant invention as shown by the disclosure above with respect to the instant claims as presented. Applicant is reminded that the non-structural attributes of the instant claims with respect to the magnetic field, and its effects, have not been addressed in the above rejection, since these attributes have little or no patentable weight in an apparatus claim. Since the cell and a means for imposing on the cell an external alternating field have been found in the prior art, the instant claims have been met by the prior art cited above. Therefore, the prior art of Waldron anticipates the applicants instant invention.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB  
March 27, 2007

  
Bruce F. Bell  
Primary Examiner  
Art Unit 1746